DOCUMENT RESUME

ED 357 185 CE 063 564

TITLE	Vocational Education and the Transition from School to Work.
INSTITUTION	Institute for Educational Research in the Netherlands (SVO), The Hague.
PUB DATE	Mar 91
NOTE	22p.
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Educational Practices; *Educational Research; *Education Work Relationship; Foreign Countries; Postsecondary Education; *Research Projects; Research Reports; Secondary Education; *Vocational Education
IDENTIFIERS	*Netherlands

ABSTRACT

This document presents an overview of 32 research projects addressing issues related to vocational education and the transition from school to work, completed in the Netherlands during 1989-1990. For each research project, the following information is provided: research title, project number, the number of a previous or follow-up project where appropriate, name of the project leader, name of the research institute, details on the final report, and a summary of the aims and findings of the project. Some of the topics covered in the research are as follows: counseling in short senior secondary vocational courses, implementation of social studies courses, independent learning in higher vocational education, promoting educational participation at the upper secondary level, modular courses in vocational education, simulated training, learning processes in work experience situations, technology and occupation, the apprentice system, home economics and health education, science education, and foreign language education at the lower secondary level, physical education, educational finance, teacher employment, basic education in elementary vocational schools, and mergers in senior secondary vocational education. A list of the research institutes providing the reports is included. (KC)

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VOCATIONAL EDUCATION AND THE TRANSITION FROM SCHOOL TO WORK

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INTRODUCTION

SVO, the Institute for Educational Research in the Netherlands, is the main independent academic body dealing with educational research in the Netherlands. One of SVO's statutory tasks is to provide information about ongoing and completed educational research projects and to disseminate the results of such projects in the Netherlands and abroad. This is done, for instance, through the preparation and publication of thematically structured overviews of research projects in Dutch as well as in English.

This overview deals with research projects that were completed during the period 1989-1990 and that addressed issues related to the **vocational education and the transition from school to work**. Similar overviews are available for the following research areas: primary education; special education; secondary education; teacher education; educational priority policy/educational inequality, school careers and occupational careers; girls and women in education; language teaching; education and technology; the education support structure; and legal, administrative and economic aspects of education.

For each research project, the following information is provided: research title, SVO project number and, where appropriate, the number of a previous or follow-up project, name of the project leader, name of the research institute, details on the final report and a summary of the aims and findings of the project.

The aim of this publication is to inform you. It may happen that while you are reading it, questions occur to you which this publication does not answer. If your question concerns specific information about a project, you are advised to contact the project leader; you will find the names and addresses of the research institutes at the back of this publication. If your question is of a more general nature, for instance about a project not mentioned on this list, or policy-related or organizational issues, or other SVO publications, you can write or telephone SVO's Information Department. Finally, we welcome any suggestions to improve this publication.

SVO, March 1991

CONTENTS

5360	Counselling in short senior secondary vocational courses	4
5410/8100	The experiment with departments for HAVO and MBO (higher general secondary education and senior secondary vocational education)	4
6005	Implementation of the school subject "social studies"	4
6046	Conditions for independent learning in higher vocational education	5
6048	The extra fourth year in junior vocational secondary education	5
6054	Promoting educational participation at the upper secondary level	6
6055	Modular courses in vocational education	6
6056	Simulated training	7
6057	Learning processes in work experience situations: a feasibility study	7
6061	Technology and occupation	7
6062	Secondary analyses of data from a labour force survey conducted by the Central Bureau of Statistics (CBS)	8
6064	Study of the apprenticeship system I: a comparative study of the occupational careers of school-leavers from apprenticeships and from senior secondary vocational education (MBO)	8
6065	Study of the apprenticeship system II: the quality of the practical component	9
6066	Occupational careers between the ages of 25 and 35	9
6073	Technology in secondary schools: state of the art	10
6076	Consequences of merging and reshuffling	10
6078	Home economics/health eduction at the lower secondary level: a state-of-the-art-survey	11
6079	Science education at the lower secondary level: a state-of-the-art survey	11
6080	Foreign language education at the lower secondary level: a state-of-the-art survey	12
6081	Physical education and emancipation	12

6091	The demand for teachers	13
6092	Type of education and economic growth	13
6095	External financing in education	14
6114	Evaluative study of pre-higher vocational education	14
8030	Concept analysis of action competencies for occupations and functions with transfer value	15
8038	Anti-Semitism and authoritarianism among pupils	15
8039	Evaluation of the operation 'sector formation and innovation in senior secondary vocational education'	16
8050	The innovatory capacity of schools for part-time vocational education	16
8070	Co-operation between schools and industry	17
8126	The introduction of basic education in elementary vocational schools	17
9046	Merger processes in senior secondary vocational education (MBO)	18
9114	School autonomy and the inspectorate in senior secondary vocational education (MBO)	18

Research institutes 19

COUNSELLING IN SHORT SENIOR SECONDARY VOCATIONAL COURSES
Project number: SVO-5360
Project leader: W. Jansen Heijtmajer
Research institute: SCO (Centre for Educational Research), University of Amsterdam
Final report: Mellink, E.C. et al. Leerlingbegeleiding in het Kort Middelbaar Beroepsonderwijs. Amsterdam: SCO, 1989, 87p.
Aim: This investigation of the design of Personal and Social Counselling (PMB) in short senior secondary vocational courses (KMBO) focused on the relationship between PMB and the course programme as a whole, the results of PMB and the skills required of teacher-counsellors.
Results: In none of the KMBO projects is counselling fully integrated in the course programme. Counselling by one or two persons proves to be more effective than counselling administered by several people. The skills counsellors consider most important concern establishing a candid relationship with the pupil and offering tailored guidance in the educational process. Pupils are most likely to consult counsellors on account of difficulties with regard to concentration and motivation. Educational activities and counselling can be better integrated if pupils are offered a greater variety of choices in the sequence and content of the subject matter.

THE EXPERIMENT WITH DEPARTMENTS FOR HAVO AND MBO (HIGHER GENERAL SECONDARY EDUCATION AND SENIOR SECONDARY VOCATIONAL EDUCATION)
Project number: SVO-5410/8100
Project leader: F.S.J. Riemersma
Research institute: SCO (Centre for Educational Research), University of Amsterdam
Final report: Polder, K.-J. et al. Het experiment HAVO/MBO, een evaluatie-onderzoek naar effecten en processen. Amsterdam: SCO, 1989, 190p.
Aim: To evaluate the experimental combined HAVO/MBO courses (senior general secondary education and senior vocational secondary education) and to compare their output with that of regular HAVO courses.
Results: HAVO/MBO and HAVO courses have similar outputs. HAVO/MBO pupils are more likely to obtain their diploma without repeating a year than HAVO pupils. Pupils coming from junior secondary vocational schools who had to repeat a year at their former school do particularly well in HAVO/MBO courses. HAVO/MBO and HAVO differ little in terms of numbers of pupils transferring to higher vocational education (HBO) and these pupils' performance in HBO. However, performance levels differ considerably per type of HBO course. It is desirable that, if they can cope, pupils should take seven examination subjects, since this is related to higher performance levels in HAVO/MBO. Success in HAVO/MBO and subsequent studies is generally related to individual pupil characteristics. The establishment of a theoretical variant of new-style MBO should be given serious consideration.

IMPLEMENTATION OF THE SCHOOL SUBJECT "SOCIAL STUDIES"
Project number: SVO-6005
Project leader: J.J.H. van den Akker
Research institute: OCTO (Research Centre of the Department of Educational Technology), Twente University
Final report: Kuiper, W.A.J.M. et al. De implementatie van een maatschappijleercurriculum. Enschede: OCTO, 1989, 111p.
Aim: The National Institute for Curriculum Development (SLO) has developed

instructional materials for the subject "social studies" in junior general secondary schools (MAVO) and junior secondary vocational schools (LBO). This study investigated how teachers at these schools use these materials to prepare and execute their lessons. The focus was on the effect of the products on teaching practice, in relation to teachers' views of the subject, and on the context in which individual teachers implemented the new material.
Results: In terms of curriculum implementation, the results are disappointing. Teachers held reasonably positive views about the materials, but made little use of recommended instructional strategies and opportunities to structure lessons and subject matter material. They tended to make a selection of the materials and to adjust this to their own, rather traditional way of teaching (whole-class instruction). Innovatory elements were found to be used only by teachers who are familiar with such methods. It is recommended that future SLO projects should aim at detailed specification, thorough evaluation and adjustment of a confined amount of instructional material, rather than at producing a large number of insufficiently tested products.

CONDITIONS FOR INDEPENDENT LEARNING IN HIGHER VOCATIONAL EDUCATION
Project number: SVO-6046
Project leader: M. Elshout-Mohr
Research institute: SCO (Centre for Educational Research), University of Amsterdam
Final report: Elshout-Mohr, M. et al. Zelfstandig studeren in het hoger beroepsonderwijs. Amsterdam: SCO, 1990, 193p.
Aim: To examine the conditions under which first-year students at colleges of higher education can develop skills for independent study and to identify any problems that occur.
Results: Studying independently causes problems for first-year students. Students find it difficult to fit personal activities in with their study programme, and to develop an appropriate approach and attitude towards their studies. Independence is often discouraged by the organization and the presentation of the study programme. Students with a relatively poor prior education will only be able to learn to study independently if a solution is found to remedy their disadvantages. Teachers should inform students quicker and in a more consistent and instructive way about task requirements and academic standards. The content of first-year programmes and examinations should be revised, as should the division of tasks between secondary and higher education in respect of teaching cross-curricular language, thinking and study skills.

THE EXTRA FOURTH YEAR IN JUNIOR VOCATIONAL SECONDARY EDUCATION
Project number: SVO-6048
Project leader: F. Haanstra
Research institute: RION (Institute for Educational Research), State University of Groningen
Final report: Haanstra, F. et al. De functie van het extra vierde leerjaar in het lager beroepsonderwijs. Groningen: RION, 1990, 58p.
Aim: To evaluate the function of the extra fourth year in junior vocational secondary education and to ascertain what proportion of pupils make use of it.
Results: Of pupils who are enrolled in technical courses, 21% stay on in the extra fourth year; in home economics courses the figure is 9%. Most pupils who stay on use the fourth year to improve their educational level and to extend their range of subjects. Few pupils use the fourth year as a preparation for

senior vocational secondary education. Pupils who do the fourth year without taking additional subjects do not hold a better position on the labour market than pupils who enter the labour market with a regular, three-year LBO certificate. Certificate holders from home economics courses are more likely to remain unemployed than those from technical or commercial courses.

PROMOTING EDUCATIONAL PARTICIPATION AT THE UPPER SECONDARY LEVEL
Project number: SVO-6054
Project leader: E. Roede
Research institute: SCO (Centre for Educational Research), University of Amsterdam
Final report: Roede, E. et al. Zelfstandigheid motiveert leerlingen. Amsterdam: SCO, 1989, 118p.
Aim: To examine how far levels of motivation, satisfaction and socio-normative skills of pupils in the fourth year of senior general secondary education (HAVO) and in the second year of senior secondary commercial education (MEAO) can be explained by the organization of the curriculum on the one hand and pupils' levels of independence, study skills and self-perception on the other.
Results: Pupils who feel independent and pupils who say that they are capable of studying independently are generally better motivated and more satisfied about school. The extent of their own responsibility does not affect this relationship. Girls feel more independent than boys and are better at studying independently. Boys feel more responsible for their own achievement and profess to have greater skills in cognitive and social situations. Few differences were found between HAVO and MEAO pupils. Promoting pupils' sense of responsibility, by enhancing their independence, may reduce differences in motivation caused by differences in levels of independence.

MODULAR COURSES IN VOCATIONAL EDUCATION
Project number: SVO-6055
Follow-up study: SVO-9047
Project leader: G.J. Meesterberends-Harms
Research institute: RION (Institute for Educational Research), State University of Groningen
Final report: Meesterberends-Harms, G.J. et al. Modulering in het beroepsonderwijs. Groningen: RION, 1989, 2 vols.
Aim: To provide survey developments in the field of modular instruction in vocational training and to identify restrictions of modular instruction.
Results: In modular instruction, two variants can be clearly distinguished: flexible instruction and structured instruction. In schools providing short senior secondary vocational courses (KMBO) the modular system is generally more flexible than in schools providing theoretical apprenticeship training (BBO). For both variants there is a need for resources for development work and in-service training. Modular instruction makes other demands on the teacher than does traditional whole-class instruction: the teacher becomes a teacher-counsellor. In the case of the flexible variant, it is especially the high achievers who seem to profit from the looser structure and the relative independence from the group as a whole. For less motivated and lower achieving pupils a modular system may cause problems. The effect of the structured modular variant is less clear.

SIMULATED TRAINING
Project number: SVO-6056
Project leader: J.M. Pieters
Research institute: OCTO (Research Centre of the Department of Educational Technology), Twente University
Final report: Pieters, J.M. et al. De praktijk leren door simuleren. Enschede: OCTO, 1989, 106p.
Aim: To offer an insight into the state of the art in instructional organization, curriculum technology and instructional technology in the field of simulated practice in upper secondary vocational schools.
Results: The forms of simulated practice that occur are intended for adults and for pupils in senior secondary vocational schools. Nearly 80% of respondents considered the controllability and manageability of simulated practice an advantage. A disadvantage that was mentioned was that simulated practice is too much a reduction of reality. The respondents did not believe that practice simulation was cheaper than other methods of instruction or on-the-job training. Due to the absence of evaluative data, no clear picture can be obtained of the effectiveness of simulated practice.

LEARNING PROCESSES IN WORK EXPERIENCE SITUATIONS: A FEASIBILITY STUDY
Project number: SVO-6057
Follow-up study to: SVO-4072
Project leader: P.C. van den Dool
Research institute: SCO (Centre for Educational Research), University of Amsterdam
Final report: Onstenk, J.H.A.M. et al. Leerprocessen in stages. Amsterdam: SCO, 1989, 245p.
Aim: This study sought to devise a model and instruments that can be used to describe and analyse learning processes in work experience situations. The study focused on learning processes with trainees in full-time secondary vocational education.
Results: The developed model makes it possible to analyse learning processes in work experience situtations; it enables learning effects and learning processes to be identified and the relationships between learning effects and processes to be expressed in terms of learning patterns. The learning effects that can be distinguished are related to labour/occupational environment, occupational competence, the trainee's development and the training as such. Learning effects that are related to 'labour' and 'social skills' are mostly acquired during practice. Occupational insight has mainly to do with perception, not actual participation. For the three types of training that were examined it was found that occupation-specific learning effects were strongly related to knowledge effects. Elaboration of the concept of 'core problems' (occupation-specific problem situations) will enable schools to exercise control over work experience situations from a distance.

TECHNOLOGY AND OCCUPATION
Project number: SVO-6061
Project leader: J. Geurts
Research institute: ITS (Institute for Social and Behavioral Studies), Catholic University of Nijmegen
Final report: Esch, V. van et al. Beroepsvorming en technologie. Nijmegen: ITS, 1989, 82p.
Aim: The study aimed to explore the role of employment organizations and

educational institutions in translating technological developments into vocational training processes and structures. More specifically, the study sought to construct a theoretical model, to develop adequate research instruments and to provide a basis for a further research.
Results: The significance of technological developments for problems in the transfer from education to employment was approached from a sociological angle. Modern occupational theory provides a framework that makes it possible to examine developments in the labour system, education and the labour market simultaneously, thus offering a balanced picture of the effect of technological developments on transfer problems. This approach makes it possible to analyse relationships between the labour system, education and the labour market at an intermediate level in their dynamic context. An explorative design has been constructed for such a study.

SECONDARY ANALYSES OF DATA FROM A LABOUR FORCE SURVEY CONDUCTED BY THE CENTRAL BUREAU OF STATISTICS (CBS)
Project number: SVO-6062
Project leader: C.N. Teulings
Research institute: SEO (Foundation for Economic Research), University of Amsterdam
Final report: Teulings, C. et al. Een empirische afbakening van beroepsdeelmarkten. Amsterdam: SEO, 1988, 32p. Belderbos, R.A. et al. Kansen op werk. Amsterdam: SEO, 1988, 147p. Belderbos, R.A. et al. De arbeidsmarkt tot 1994. Amsterdam: SEO, 1989, 82p.; Teulings, C.N. Conjunctuur en kwalificatie. Amsterdam: SEO, 1990, 213p. (Doctoral thesis University of Amsterdam)
Aim: (1) To examine, in quantitative terms, the relationship between educational characteristics of the labour force and the position of working people in the labour system; (2) to determine how this relationship has developed during the past decade and whether there exist separate "component labour markets" or "educational-occupational domains".
Results: The high rates of unemployment among people with a low level of education are not so much caused by a lack of schooling in an absolute sense, as by the fact that better educated people are taking their jobs. Apart from education, the chance of finding a job in a particular sector is determined by gender, nationality, age, work experience and the extent to which better educated people have "invaded" that sector of the labour market. The influence of these factors makes it difficult to gear training programmes to the requirements of the labour market. In the near future, the number of job seekers is expected to decrease annually by 20,000 people. By 1994, according to current prognoses, there will be 475,000 people looking for a job. A major cause of this decline is the decrease in the number of school-leavers. In the years to come it will not be difficult for most employers to find employees.

STUDY OF THE APPRENTICESHIP SYSTEM I: A COMPARATIVE STUDY OF THE OCCUPATIONAL CAREERS OF SCHOOL-LEAVERS FROM APPRENTICESHIPS AND FROM SENIOR SECONDARY VOCATIONAL EDUCATION (MBO)
Project number: SVO-6064
Project leader: R.K.W. van der Velden
Research institute: RION (Institute for Educational Research), State University of Groningen
Final report: Velden, R.K.W. van der et al. De lange arm van het onderwijs. Groningen: RION, 1989, 112p.
Aim: To compare the occupational careers of school-leavers from the appren-

ticeship system with those of school-leavers from similar courses at senior secondary vocational schools (MBO schools), focusing on long-term differences in labour market position and occupational position.
Results: Former apprentices have jobs that are well linked to their training. MBO certificate holders, on the other hand, are more likely to have jobs below their level of training or to be employed in another sector than the one for which they have been trained. Former apprentices keep the advantage in the long term, although the differences between both groups gradually diminish. Most MBO certificate holders find gainful employment within six months, but this often concerns temporary jobs. They are often employed at a relatively low level for quite some time before they are appointed to a post at the level for which they have been trained. MBO certificate holders change their job more often during the first seven years of employment, which enables them to reach a higher level sooner. Both groups have an equal chance to remain unemployed.

STUDY OF THE APPRENTICESHIP SYSTEM II: THE QUALITY OF THE PRACTICAL COMPONENT
Project number: SVO-6065
Project leader: J. Frietman
Research institute: ITS (Institute for Social and Behavioral Studies), Catholic University of Nijmegen
Final report: Frietman, J. et al. De kwaliteit van de praktijkcomponent. Nijmegen: ITS, 1989, 292p.
Aim: To explore differences in quality and effectiveness of practical training courses for apprentices.
Results: No significant differences in quality or effectiveness were found to exist between the various training courses. Exam results and staying-on rates may be somewhat meagre, but this is compensated for by the generally favourable job opportunities for former students. The new practical training courses are worthy alternatives to the traditional apprenticeship courses. A common characteristic of the alternative variants is that the training of apprentices is more likely to take place in workshops, i.e. "off the job". Moreover, the contractual ties between the apprentice and the company providing the training are looser than in traditional apprenticeship courses. For the continued existence of the alternative variants, it is important that they succeed in attaining a higher quality than the traditional variant.

OCCUPATIONAL CAREERS BETWEEN THE AGES OF 25 AND 35
Project number: SVO-6066
Project leader: J. Diederen
Research institute: ITS (Institute for Social and Behavioral Studies), Catholic University of Nijmegen
Final report: Diederen, J. Loopbaan tussen 25 en 35 jaar. Nijmegen: ITS, 1990, 185p.
Aim: This study explored the effects of social origin, gender, aptitude, interest, and education on changes in the occupational career between the ages of 25 and 35. The study examined changes within occupational levels (horizontal mobility) and changes from one level to another (vertical mobility).
Results: Horizontal occupational mobility can partly be accounted for by people's occupational aspirations. Vertical mobility can partly be explained by early school achievement (aptitude), level of education, and gender: people, especially men, who did well at school, or who have completed some type of higher education are more likely to improve their professional level

during their career. Background characteristics (gender and social background) and the course of school and occupational careers are influential on participation in adult education, choice of life partner, family situation, affluence, wellbeing, leisure activities, cultural participation, social participation and value orientation.

TECHNOLOGY IN SECONDARY SCHOOLS: STATE OF THE ART
Project number: SVO-6073
Project leader: J.N. Streumer
Research institute: OCTO (Research Centre of the Department of Educational Technology), Twente University
Final report: Feteris, A. et al. Techniek: een nieuw vak. De Lier: Academisch Boeken Centrum, 1989, 203p.
Aim: (1) to survey the state of the art in respect of the goals, content and organization of the curriculum subject technology at various types of secondary school; (2) to determine on what considerations schools base the goals, content and organization of the subject; (3) to determine what policy measures may aid the implementation of the technology curriculum propagated by the National Institute for Curriculum Development (SLO) and the core subject matter proposed by the Technology Working Party.
Results: The introduction of technology is not running smoothly. Junior secondary vocational schools (LBO schools) and especially junior general secondary schools (MAVO schools) are actively engaged in introducing the subject. Grammar schools have not yet started to introduce technology. Nearly schools place an emphasis on practical, vocational objectives. Schools are inclined to transfer components from home economics/health care education to the technology curriculum. Many schools endorse the view of technology that is expressed in the SLO curriculum, but the conditions for its implementation pose problems. There is an increasing tendency to use ready-to-use technology labatories, but the design of the labatories that are currently available is inadequate. There is a lack of teaching materials that require pupils to work with modern technologies. Teachers have a need for concrete instructional materials.

CONSEQUENCES OF MERGING AND RESHUFFLING
Project number: SVO-6076
Follow-up study to: SVO-4178
Project leader: J.P.A. Pouwels
Research institute: ITS (Institute for Social and Behavioral Studies), Catholic University of Nijmegen
Final report: Pouwels, J. et al. Scholen en fusies. Amsterdam etc.: Swets & Zeitlinger, 1989, 162p. (FORUM 2)
Aim: The study sought to examine the effects of mergers of lower secondary schools which amalgamated in the period 1981-1987. Its primary objective was to find out how the school management has set up the new organization, how, according to those directly involved (senior management and teaching staff), the new organization works in practice and what has been the effect of the merging process on the situation after the merger.
Results: Due to mergers, small secondary schools find themselves in an increasingly difficult position. They are only an interesting partner to amalgamate with if they can add something to the new school. Parents have a preference for combined schools that cater for pupils of a wide range of ability levels; they tend to have little confidence in small schools. The

position of small schools has gotten worse especially through the lack of a central policy regarding the amalgamation of schools. Since 1982, 700 schools have been involved in merging processes; two thirds of the mergers were successful. Views about the results of merging are related to the size of the schools involved and the viability of the new school. According to 22% of school heads, the merger has not produced the desired results; 13% state that the merger has endangered the school's existence. Less successful mergers involve in particular junior secondary vocational schools and junior general secondary schools.

HOME ECONOMICS/HEALTH EDUCTION AT THE LOWER SECONDARY LEVEL: A STATE-OF-THE-ART-SURVEY

Project number: SVO-6078

Project leaders: M. Robijns, M. Volman

Research institute: SCO (Centre for Educational Research), University of Amsterdam

Final report: Robijns, M. et al. Verzorging, een vak apart? Lisse: Swets & Zeitlinger, 1991, 239p. (FORUM 9)

Aim: To conduct a state-of-the-art survey of home economics/health education at the lower secondary level and to list arguments for and against the introduction of home economics/health education in the secondary school curriculum.

Results: Home economics/health education offers a coherent combination of knowledge, attitudes and skills related to private life. The main topics addressed are: nutricion, home, health, self-management, relationships, stimulants, consumer education, the environment and leisure activities. At present, the subject is mainly taught in schools providing home economics education, junior secondary vocational education or junior general secondary education. Teachers and parents consider the subject to be a valuable contribution to the development of young people. Pupils' views are clearly gender-related: girls hold more positive attitudes towards the subject than do boys. Integration of home economics/health education in other subjects raises the question of whether under those circumstances the subject will maintain its specific character and whether it will be possible to achieve the set learning objectives. On the other hand, introducing home economics/health education as a separate subject entails a number of problems, especially problems of a practical nature. Many parents and a minority of teachers believe that home economics/health education should be made a separate subject in the future common core curriculum. Advocates of integrating the subject in existing subjects can be found particularly in senior general secondary schools and pre-university schools.

SCIENCE EDUCATION AT THE LOWER SECONDARY LEVEL: A STATE-OF-THE-ART SURVEY

Project number: SVO-6079

Project leader: W.A.J.M. Kuiper

Research institute: OCTO (Research Centre of the Department of Educational Technology), Twente University

Final report: Kuiper, W.A.J.M. et al. Biologie, natuurkunde, scheikunde en kennis der natuur: de feitelijke lespraktijk in beeld. Enschede: OCTO, 1990, 154p.

Aim: To conduct a state-of-the-art survey of current practice in biology, physics, chemistry and nature education at all levels of lower secondary education.

Results: As regards teaching methods, the emphasis in science instruction is

on whole-class instruction. There exist considerable differences between the various types of school in respect of the amount of time devoted to laboratory sessions. There is little interest in integrating aspects of biology, physics and chemistry. The structuring of science lessons is largely based on to the textbook that is being used. There exists a considerable discrepancy between current teaching practice and the situation that policy-makers and experts consider desirable for the implementation of the common core curriculum.

FOREIGN LANGUAGE EDUCATION AT THE LOWER SECONDARY LEVEL: A STATE-OF-THE-ART SURVEY

Project number: SVO-6080

Project leader: M.M.B. Oud-de Glas

Research institute: ITS (Institute for Social and Behavioral Studies), Catholic University of Nijmegen

Final report: Bouwens, F. et al. Het vreemde-talenonderwijs in de onderbouw van het voortgezet onderwijs. Lisse: Swets & Zeitlinger, 1991, 218p. (FORUM 13)

Aim: To examine the content and organization of compulsory foreign language teaching at the lower secondary level.

Results: The amount of time that is devoted to compulsory foreign language teaching differs per type of school. Junior secondary vocational schools (LBO schools) provide the least amount of foreign language instruction, although where English is concerned the difference with general secondary schools and pre-university schools is remarkably slight. A considerable number of LBO schools are not providing instruction in German or French, although it is certain that these subjects will be included in the common core curriculum that will be introduced in the entire lower secondary sector. In terms of content, too, the programmes that are being offered vary strongly per type of school. However, these differences are extremely irregular and difficult to interpret. As far as the organization of instruction is concerned, little variety was found between different types of school.

PHYSICAL EDUCATION AND EMANCIPATION

Project number: SVO-6081

Project leaders: T. Manders, J. Prinssen

Research institute: ITS (Institute for Social and Behavioural Studies), Catholic University of Nijmegen

Final report: Prinssen, J. et al. Coeducatieve l.o.-lessen in het lager beroepsonderwijs. Nijmegen: ITS, 1989, 80p.

Aim: Not all secondary schools accept coeducation in physical education as a matter of course. Especially in junior secondary vocational schools (LBO schools) there have been protests from the beginning against the policy recommendation to implement coeducation as a basic principle in the entire teaching programme. The aim of this project was to determine how physical education should be organized for it to fit the objectives of the LBO Emancipation Project, taking account of the specific characteristics of LBO pupils and the equipment and the facilities present in the schools.

Results: Coeducational physical education occurs at 88% of schools with a mixed population. That fact that boys and girls are taught together has nearly always an organizational and/or financial background (timetable restrictions, falling rolls) and has generally little to do with the school's views regarding equal opportunities and eliminating sex stereotyping. According to the majority of teachers in the study, mixed-sex groups have a favourable effect

on the relationships between boys and girls. The objections of the opponents (27%) are related to differences in the needs, desires and physical possibilities of boys and girls and the absence of separate showers and changing rooms. 13% of pupils are against coeducational instruction. Most teachers do not know how to deal with objectives related to equal opportunities and reducing sex stereotyping in their lessons.

THE DEMAND FOR TEACHERS
Project number: SVO-6091
Project leader: J. de Voogd
Research institute: NEI (the Netherlands Economic Institute), Rotterdam
Final report: Voogd, J. de et al. Beschrijving van onbevoegdheid in het voortgezet onderwijs. Rotterdam, NEI, 1989, 54p.; Voogd, J. de et al. Oorzaken van tekorten aan leerkrachten in het VO. Rotterdam: NEI, 1990, 37p.
Aim: To examine the extent of teacher shortage in secondary and higher education on the basis of an analysis of the incidence of teaching by unqualified teachers.
Results: During the period 1979-1985, the incidence of teaching by unqualified teachers went down from 9,2% to 6%. Unqualified teachers are more common in secondary education than in higher education. In most shortage subjects the number of unqualified teachers remained the same or went up. The decline in the number of unqualified teachers goes hand in hand with an increase in the number of overqualified teachers: in 1985 30% of lessons given by qualified staff were taught by overqualified teachers. The incidence of teaching by unqualified teachers may be partly ascribed to the shortage of teachers; this is relatively urgent in languages, but much less so in vocational subjects, where it moreover fluctuates in time. Teacher shortage is caused by the influence of pay levels, career prospects, work load and the labour market situation on the numbers of teachers entering and leaving the profession.

TYPE OF EDUCATION AND ECONOMIC GROWTH
Project number: SVO-6092
Project leader: J. de Koning
Research institute: NEI (the Netherlands Economic Institute), Rotterdam
Final report: Koning, J. de et al. Soorten onderwijs en economische groei. Rotterdam: NEI, 1990, 360p.
Aim: To investigate the contribution of different types of education to economic growth.
Results: Education fosters economic growth. However, the direct effect is hard to measure; moreover, it changes with changing economic circumstances. During the period 1960-1971, companies showed a stronger increase in production if their employers were better trained. After that period, the connection is less clear. This may be due to the fact that other factors came to play a dominating role in economic development, such as the oil crisis. The type of education people choose appears to have little influence on the kind of job they eventually take. In nearly all occupations there exists a wide variety of training backgrounds. On the other hand, some types of training give access to a wide range of occupations, although there is less variety from this side of the picture. The role of in-company and private training courses is becoming increasingly important.

EXTERNAL FINANCING IN EDUCATION
Project number: SVO-6095
Project leader: J.B.J. Koelman
Research institute: CSHOB (Centre for Studies of Higher Educational Policy), Twente University
Final report: Coppens, I.M.T. et al. Externe bekostiging in het beroepsonderwijs en het wetenschappelijk onderwijs. Enschede: CSHOB, 1989, 124p.
Aim: To take stock of the nature and extent of external financing in vocational and university education and to examine the effect of contract activities on the content and the quality of regular instruction.
Results: External resources enable universities to increase their annual budget by 18%; in vocational education this figure is nearly 5%. All universities acquire external funds through contract training activities, which account for 64% of the total amount of external funding. In higher vocational education (HBO) the figure is 27%, in senior secondary vocational education (MBO) and in junior secondary vocational education (LBO) it is 12% and 4% respectively. In vocational education parental contributions are the main source of external income, especially in LBO and MBO (respectively 66% en 55% of the total amount). In HBO student contributions (36%) and services to outside agencies (27%) are major sources of income. Other forms of external funding concern compensation for students doing work experience, gifts in the form of equipment, donations, legacies, and sponsoring. In addition, HBO institutes acquire funds through contract research and by offering vocational postgraduate continuing education courses. It is at this stage impossible to draw clear conclusions as to the effect of contract activities on the content and the quality of regular instruction.

EVALUATIVE STUDY OF PRE-HIGHER VOCATIONAL EDUCATION
Project number: SVO-6114
Project leader: F.S.J. Riemersma
Research institute: SCO (Centre for Educational Research), University of Amsterdam
Final report: Riemersma, F.S.J. et al. Het evaluatie-onderzoek Vooropleiding Hoger Beroepsonderwijs. Amsterdam: SCO, 1989, 138p.
Aim: In the Netherlands there are four types of schooling that lead to higher vocational education (HBO): senior secondary vocational education (MBO), senior general secondary education (HAVO), the combined variant HAVO-MBO, and pre-higher vocational education (VHBO). The aim of this project was to evaluate pre-higher vocational education (VHBO) with a view to facilitating policy decisions on the position of VHBO in relation to HAVO-MBO.
Results: VHBO offers LBO and MAVO (junior general secondary education) certificate holders an adequate preparation for HBO. 49.7% of those qualifying from VHBO move on to HBO. Many pupils leave VHBO during or after the first year. Over half of these enroll in another type of training course; about 37% enter the labour market. Of those who move on to the second year of VHBO, over half succeed in obtaining the diploma within the official duration of the course. VHBO, HAVO-MBO and HAVO differ little in terms of entrants who eventually obtain a diploma. MAVO certificate holders perform better in VHBO than in HAVO. Integration of VHBO and HAVO-MBO is feasible. However, it will be necessary to harmonize examination syllabuses, minimum requirements per subject, course contents and teacher qualifications.

CONCEPT ANALYSIS OF ACTION COMPETENCIES FOR OCCUPATIONS AND FUNCTIONS WITH TRANSFER VALUE

Project number: SVO-8030

Project leader: M.W. de Jong

Research institute: SCO (Centre for Educational Research), University of Amsterdam

Final report: Jong, M.W. de et al. Breed toepasbare beroepskwalificaties in leerplan en beroepspraktijk. Amsterdam: SCO, 191p.

Aim: To examine the definition of "widely applicable" occupational qualifications for occupations at lower and average levels in practice and to establish how these qualifications may be translated into curricula and educational programmes.

Results: Increasing importance is being attached to widely applicable occupational qualifications. These qualifications can be subdivided into metacognitive, organizational, and communicative occupational qualifications and into normative, strategic and affective action orientations. Most importance is attached to socio-normative and social requirements, such as sense of responsibility, accuracy, dealing with safety requirements and cooperation with colleagues. The incorporation of widely applicable occupational qualifications in curricula differs per occupational sector. In some sectors they are related to technical aspects, in others they are not. The differences between occupations are so large that it seems useful to define widely applicable occupational qualifications only within an occupational domain. There exists little know-how as to the way in which widely applicable occupational qualifications may be taught in vocational schools.

ANTI-SEMITISM AND AUTHORITARIANISM AMONG PUPILS

Project number: SVO-8038

Project leader: W. van de Grift

Research institute: ISOR (Interdisciplinary Research Institute for the Social Sciences, Department of Educational Research), State University of Utrecht

Final report: Grift, W. van de et al. Antisemitisme en autoritarisme onder scholieren. Utrecht: ISOR, 1990, 72p.

Aim: To construct a research instrument for measuring levels of anti-Semitism among pupils and to gain insight into the knowledge and attitudes of 14-18-year-old pupils from different types of secondary school in respect of the persecution of the Jews during World War II, anti-Semitism and authoritarianism.

Results: A reliable instrument, consisting of Likert scales, has been developed for measuring various kinds of anti-Semitism (economic, political and religious-cultural), authoritarianism, interest in World War II, and the influence of social desirability (to ascertain whether pupils give their own opinion or just express a view that they know is socially desirable, e.g. anti-Semitism is wrong). The pupils in the study were on the whole far from anti-Semitic or authoritarian. This is not to say, however, that anti-Semitism and authoritarianism do not occur at schools. There is no connection between the family's socio-economic status and scores on anti-Semitism or authoritarianism. Children from high SES families do know more about World War II. The more knowledge they have, the less anti-Semitic they are, and vice versa. This connection also exists for authoritarianism, but to a lesser extent. Attitudes towards World War II are also strongly related to knowledge about the war.

EVALUATION OF THE OPERATION "SECTOR FORMATION AND INNOVATION IN SENIOR SECONDARY VOCATIONAL EDUCATION"

Project number: SVO-8039

Project leader: C. Kurek-Vriesema

Research institute: SCO (Centre for Educational Research), University of Amsterdam

Final report: Kurek-Vriesema, C. et al. De implementatie en coordinatie van overheidsbeleid: evaluatie van de SVM-operatie. Amsterdam: SCO, 1990, 140p.

Aim: To evaluate the processes and the role of the co-ordinating body in the operation "Sector Formation and Innovation in Senior Secondary Vocational Education" (SVM operation). The degree of success of the operation was determined on the basis of the perceptions of the organizations involved.

Results: There is a great deal of public support for the objectives of the SVM operation, i.e. strenghtening the position of senior secondary vocational education and improving the links between education and the labour market. The decision to entrust the implementation of the policy programme to an external co-ordinating body has caused considerable commotion. Board unions and organizations in charge of specific activities were particularly concerned that this would endanger the existing structure of powers and responsibilities. However, the policy programme allowed sufficiently for participation in decision making. Moreover, as the co-ordinating body possessed formally no powers, the education minister bearing the ultimate responsibility, the unrest gradually faded. The way in which information was provided and the expertise of the co-ordinating body have partly determined the success of the government's role in the operation. A general conclusion is that the organizational design leaves room for a creative, enterprising approach. The study also shows, however, that the efforts of the schools themselves have made a major contribution to the ostensibly smooth implementation of the merger processes.

THE INNOVATORY CAPACITY OF SCHOOLS FOR PART-TIME VOCATIONAL EDUCATION

Project number: SVO-8050

Project leader: P.J.B. Roeders

Research institute: RION (Institute for Educational Research), State University of Groningen

Final report: Batenburg, T.A. van et al. Effectieve organisatie- en managementkenmerken in het deeltijd beroepsonderwijs. Groningen: RION, 1989, 48p.

Aim: To identify organizational and managerial factors that may have relevance for the future of part-time vocational education.

Results: Sweeping changes in part-time vocational education are making heavy demands in terms of school organization and management. Successful school organizations are characterized by a market-oriented approach. Good contacts with business and industry and a clear consultative structure determine a school's success. In future, part-time vocational training institutes will have to keep a close eye on the market of vocational training courses and the changes that are taking place in that market. Special staff should be hired to market contract training. It may be desirable to bring in people from business and industry to set up courses, to develop teaching materials or even to teach.

CO-OPERATION BETWEEN SCHOOLS AND INDUSTRY
Project number: SVO-8070
Project leader: E. de Bruijn
Research institute: SCO (Centre for Educational Research), University of Amsterdam
Final report: Bruijn, E. de et al. MBO en bedrijfsleven scholen samen. Amsterdam: SCO, 1989, 94p.
Aim: To examine: (1) the nature of existing links between senior secondary vocational schools (MBO schools) and industry; (2) the goals pursued by both parties; (3) the problems that occur in developing links between schools and industry; (4) the conditions under which co-operation between schools and enterprises offers perspectives for the future.
Results: MBO schools and enterprises co-operate in various ways, ranging from work experience projects and consultations about the curriculum to contract training. However, this often concerns isolated activities, especially in the area of contract training. Sometimes schools establish links with enterprises without having a clear idea as to what they want to get out of it. School-industry links should always be judged in terms of how they are related to the core of the training offered by the school. At present, these links are generally considered and elaborated separately from the school's educational programme. In view of the number of existing links and the readiness to tighten existing links and establish new ones, this separation may be expected to be reduced in future.

THE INTRODUCTION OF BASIC EDUCATION IN ELEMENTARY VOCATIONAL SCHOOLS
Project number: SVO-8126
Project leader: C.A. van Vilsteren
Research institute: OCTO (Research Centre of the Department of Educational Technology), Twente University
Final report: Matthijssen, Ch. et al. De basis van de basisvorming: een eerste verkenning van het innovatieproces basisvorming in het Dubbelproject basisvorming/primair beroepsonderwijs. Enschede: OCTO, 1990, 137p.
Aim: To examine how schools that participate in the project "Basic Education-Elementary Vocational Education" are organizing the basic education curriculum and how each school has set up its project organization to implement this innovation.
Results: The innovation management differs per school in the following areas: (a) place of the project management in the organization (within or outside the school management team), (b) presence or absence of a specific project group, (c) consultative and informational structure, and (d) experience with innovation projects. A common factor is the changed role of the subject departments, which have been given greater responsibility for the organization and content of instruction. The number of hours schools devote to the "old" subjects has remained about the same. The new subjects (second foreign language, economics, information technology) were already offered by some schools before the project was launched. Pupil counselling has been provided by these schools for a long time; in this respect the introduction basic education does not signify a real innovation at most schools. No relationship was found between the intensity of the schools' initial commitment to the project and the way they organize the project during the first year.

MERGER PROCESSES IN SENIOR SECONDARY VOCATIONAL EDUCATION (MBO)
Project number: SVO-9046
Project leader: J.M.F. de Jonge
Research institute: Research voor Beleid BV (Research for Policy Ltd), Leiden
Final report: Sennema, E.J. et al. De SVM operatie: het verloop van het fusieproces in het middelbaar beroepsonderwijs. Leiden: Research voor Beleid, 1989, 79p.
Aim: To examine motives, considerations and interests that affect decision-making in merger processes in senior secondary vocational education (MBO).
Results: Merging processes in MBO are running relatively smoothly. Many schools have already taken the first major step in the merging process: the merging of the school boards. Falling rolls are the main motivation for schools to merge. Denomination is the decisive factor in choosing a partner. A successful merger process requires the establishment of a seperate desicion making committee on which the school boards and possibly the heads of the schools involved are represented. Another important factor is adequate internal information provision about the preparations for the merger.

SCHOOL AUTONOMY AND THE INSPECTORATE IN SENIOR SECONDARY VOCATIONAL EDUCATION (MBO)
Project number: SVO-9114
Project leader: R. Elte
Research institute: Vakgroep Bestuurskunde (Department for Public Administration), State University of Leiden
Final report: Elte, R. et al. Inspecteren in het beroepsonderwijs van de jaren negentig. Leiden: Vakgroep Bestuurskunde, 1990, 87p.
Aim: To examine the effect of decreasing government interference and increasing school autonomy in senior secondary vocational education on the role of the inspectorate.
Results: Under the new regime, activities at school level will no longer be determined by a given set of fixed rules and criteria. Instead, there will be a wide variety of process-related regulations. In consequence, the inspectorate will have to limit itself to taking stock of what schools do within the scope for policy-making they have, instead of enforcing compliance with external regulations. Moreover, as increased autonomy will lead in the near future to greater diversity among schools, the inspectorate is bound to be approached with an equal diversity of questions, which will have a considerable effect on its daily work. The inspectorate must be able to cope with these questions, not only from a methodological, but also from a relational point of view. In view of this disversity, three ideal approaches for have been developed for the supervisory role of the inspectorate: (1) an approach based on regulations; (2) an approach based on the school work plan (an outline of the content and organization of teaching); and (3) a process-oriented approach. These approaches are intended as alternatives from which the inspectore can choose, depending on a school's stage of development. They may also been seen as an indication of how the work of the inspectorate should develop.

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